The Little Home Cheesemaking Workbook

by Carroll & Potter

We hadn't really planned to publish

THE LITTLE HOME CHEESEMAKING WORKBOOK

It all came about because so many people want to learn how to make cheese, that they've bought up all the available books on the subject. Everywhere we write or call to buy books to fill our orders, we hear the same discouraging news. "It's out of print!"

There will be more books - in a couple of months. Meanwhile, we have expanded our regular workshop booklet, so there will be something for folks to use learning to make cheese this summer while the milk supply is good. Up to now, the booklet has just been a stack of mimeographed sheets stapled together. Homely, but useful.

We think this looks a lot better, and it contains everything you'll need to know to get started making cheese in your own kitchen. (Please excuse our typing!)

a little something extra

None of us know so much but what we can afford to learn more. And since experience is the best teacher, we encourage you to keep careful notes of times, amounts, and the other steps in your cheesemaking. To make this easier, we've included five pages of cheese notes charts at the back of the book.

HAPPY CHEESEMAKING!

TABLE OF CONTENTS

Equipment for Cheesemaking 3
The Milk 5
Cheese Starter Culture 5
What Is It? 5
Why Use It? 6
How To Make It 6
Is Something Wrong With The Starter? 7
Rennet 8
The Recipes 9
Lactic Cheese 9
Small Curd Cottage Cheese 9
Coulommiers Cheese 10
Caerphilly Cheese 12
Farmhouse Cheese 15
Gouda 17
Whey Cheeses 18
Ricotta 18
Mysost 19
Cheese Notes Charts ..... a - e

EQUIPMENT FOR CHEESEMAKING

Much of the equipment needed to make cheese can be found right in the kitchen. There are a few precautions, however, which MUST be taken in the use of cheesemaking tools. These are extremely IMPORTANT.

1. All utensils used in cheesemaking should be made of glass, stainless steel or enamel-lined (with no chips or cracks). During the process of turning milk into cheese, the milk becomes acid. Aluminum and cast iron are both too active as metals and in contact with the acid, will deposit salts of metal in the cheese, giving it an unpleasant flavor and possibly rendering it unsafe to eat.

2. All utensils should be carefully cleaned and sterilized before and after using. Most of the problems home cheesemakers encounter are the result of unclean or unsterile equipment.

The following is a list of useful equipment for cheesemaking. Much of it can be found in the kitchen - or made at home.

1. Glass or stainless steel measuring cups and spoons.

2. Dairy thermometer graduated from 0° to 220°F. A floating dairy thermometer is handier. Check the accuracy of your thermometer before using it by placing it in boiling water. It should read 212°F. If it is off, make the appropriate adjustments when using it.

3. Pots made of stainless steel, glass or enamel-lined, to warm the milk during the cheesemaking process.

4. A stainless steel curd knife, preferably sharp.

5. Cheesecloth. Fine weave butter muslin for draining curds, and the coarser weave cheesecloth for lining moulds. It should be a fine mesh cloth that can be washed, boiled to sterilize and reused - not the really loose weave kind you find in the store.

6. A stainless steel ladle or skimmer - to stir and spoon the curds.

7. Moulds are used to give cheeses their characteristic shape and to aid in draining the curds. They can be of various shapes and of food grade plastic or stainless steel. Hard cheese is made in a stainless steel mould strong enough to use in a cheese press. Soft cheeses are made in either plastic or stainless steel.

8. A cheese press is essential for making a hard cheese. It should be easy to assemble, easy to clean and should have some provision for measuring the amount of pressure being applied to your cheese.

9. Hardwood cheese boards are used for draining certain soft cheeses such as Camembert or Coulommiers. They should be about 6" x 6". Seasoned hardwood can be boiled for sterilization.

10. Cheese mats are also used for draining curds. They are made of wooden reeds sewn together with cotton twine. Also available in food-grade plastic, they may be used for the air-drying period following pressing.

11. Cheese rennet (in either tablet or liquid form) is essential for producing a high quality cheese. One fourth of a rennet tablet is enough to set two gallons of milk. Rennet contains the enzyme rennin and pepsin which turn milk into curds and whey. NOTE: Junket rennet is not the same as Cheese rennet. It makes a good junket, but will not make a good cheese.

12. Cheese Starter Culture is used to add living bacteria to the milk. These are essential to the cheesemaking process and available in freeze-dried form. (See section on Starter Culture.)

13. A scale is useful for weighing curds and salt which is added before pressing.

14. Salt is used to help preserve a hard cheese and to bring out its flavor. Coarse, flake salt, such as used in pickling, is recommended.

THE MILK

The milk you use should be of the highest quality. If you own your own dairy animal, or if you have access to milk from a local dairy farm, you have a ready supply of raw milk. If you have any doubts as to the hygienic quality of the milk, it should be pasteurized. Store bought milk is already pasteurized. Do not use milk from animals which have recently been treated with antibiotics. The presence of these in milk will hinder the cheesemaking.

To pasteurize milk, heat it in a double boiler to 160°F. and keep it at this temperature for 15 seconds, stirring to insure even heating. Immediately cool to 40° by putting the pot in a sink full of very cold water and stirring the milk.

Milk contains the following materials:

Fat	3.4%
Protein	3.3%
Lactose	4.89%
Ash	0.67%
Total solids	12.26%
Water	87.74%
Total	100.00%

You can see from these figures, that most of milk is water. The cheesemaking process is simply taking much of the water out of the milk and treating the remaining solids (curd) in a variety of ways to make different cheeses which can be stored for later use with far less danger of spoilage than with milk.

CHEESE STARTER CULTURE

WHAT IS IT?

Cheese starter culture is a growth of special bacteria in sterile milk. It assures that the right proportion of lactic acid producing bacteria will grow in the milk you are using to make your cheese. The bacteria change the milk sugar (lactose) into lactic acid.

The most common types of lactic acid bacteria in starter culture are: Streptococcus lactis, Streptococcus cremoris, Streptococcus thermophilus and Lactobacillus bulgaricus.

You may buy cheese starter culture from various supply houses in freeze-dried form. Until used, freeze-dried culture must be stored in your freezer.

WHY USE IT?

Cheese starter culture performs several important functions in the cheesemaking process. It is particularly important to the making of hard cheeses.

1. It effects the flavor, body and texture of the cheese.
2. The acid that its bacteria produce in the milk, helps the rennet to coagulate the milk.
3. The acid also aids in expelling the whey from the curds.
4. The acid checks the growth of undesirable bacteria in the finished cheese.

HOW TO MAKE IT

1. Sterilize a half-gallon canning jar and its cover by rinsing them with boiling water.
2. Fill the jar with skim milk and cover tightly.
3. Put the jar in a deep pot and fill with water to at least ½ inch above the top of the jar.
4. Put the pot on the stove and bring the water to a boil. When water starts to boil, note the time and continue at a slow boil for 30 minutes.
5. Remove the jar from the water and allow it to cool to 72° F. away from drafts.
6. Add starter culture to milk at 72°.

a) Freeze-dried. Add contents of packet of culture to milk quickly so there is minimum exposure to air. Swirl covered jar several times at five-minute intervals to dissolve powdered culture.

b) Add 4 ounces of freshly prepared starter or 4 ounces of thawed, frozen starter to the sterilized milk.

This step is called "inoculating" the milk.

7. Put the jar in a spot where the temperature will stay at at 72° F. for 16 hours. You are "ripening" your starter. If the starter is not coagulated after 16 hours, give it another 8 hours. It should coagulate in that time.

8. The finished starter culture will have the consistency of thick yogurt. It will taste acidic and a little sweet. Refrigerate it immediately and use within three days. Using goat's milk, the starter will be the consistency of thick buttermilk.

9. If you will not use it up in three days, freeze it. It lasts up to 4 months in the freezer. Put fresh starter into sterilized standard plastic ice cube trays. Freeze solid, transfer cubes to an airtight container or plastic bag and return to freezer. The standard ice-cube holds one ounce of starter. Frozen starter culture can be thawed to use in a cheese recipe or to make a fresh batch of starter.

IS SOMETHING WRONG WITH THE STARTER?

1. A sharp, acid taste or a metallic flavor may mean the the starter has been over-ripened. Next time use less starter and ripen at a slightly lower temperature.

2. If it doesn't coagulate after 24 hours, it could mean any or all of the following:

a) Temperature dropped below 72°.

b) Innoculating culture did not contain healthy bacteria.

c) Antibiotics in the milk.

d) Not enough starter culture added.

e) Contamination by organisms hostile to the lactic acid bacteria.

3. If your starter culture is bubbling, or contains bubbles, (is gassy), it could mean any of the following:

a) The skim milk was not properly sterilised.

b) The milk was contaminated when culture was added.

c) Equipment was not clean and sterile.

d) Innoculating culture was contaminated.

IF YOU BELIEVE SOMETHING IS WRONG WITH YOUR STARTER CULTURE

THROW IT AWAY and START AGAIN

RENNET

Liquid Rennet should be kept in the refrigerator at a temperature of no more than 50°F. It should be kept out of the light. Do not use temperatures higher than 95°F. when setting milk with liquid rennet.

One quarter teaspoon of liquid rennet, dissolved in one quarter cup of sterilised (cooled, boiled) water is enough to set one gallon of milk - unless a specific recipe states otherwise.

One quarter of a rennet tablet is the equivalent of one quarter teaspoon of liquid rennet. It will also set one gallon of milk.

Pour diluted rennet in a thin stream while stirring the milk to ensure complete mixing.

Clean, sterile utensils and conditions are as important here as in all other phases of cheesemaking.

ounces of cheese starter culture

pot of curds slowly into it

the curds

and only to 98°F.)

eaten.

COULOMMIERS CHEESE

A full, flat, soft cheese which .s
milder in flavor.

Directions

ripen for 20 minutes

cheese in hot weather

on top of the stack

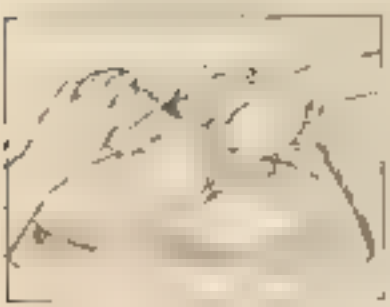
side.

from a gallon of milk.

Directions

warm water. Stir until milk reaches a

boiled water. Pour diluted rennet

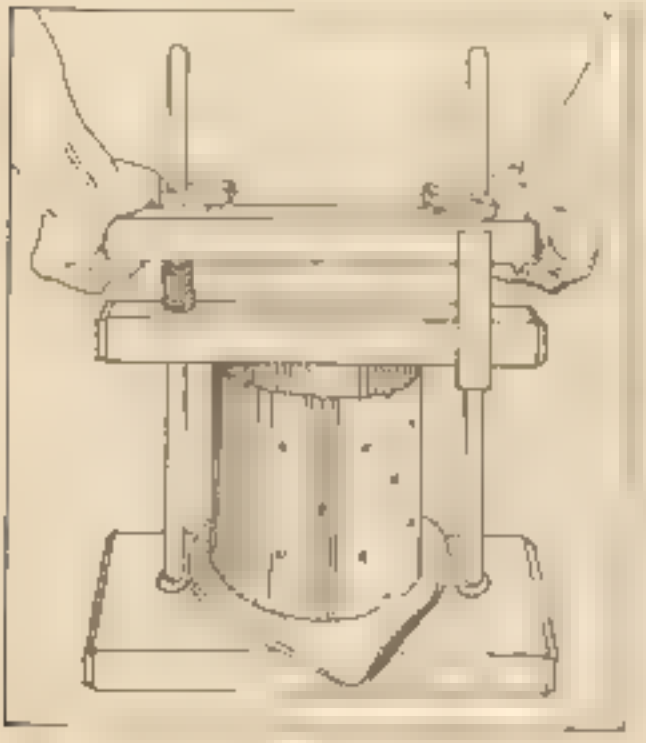


inch of the milk with a slotted ladle

the right size.

intervals.

6. Milling and Salt
into pieces about the
now is the time to mix
Sprinkle on a little at

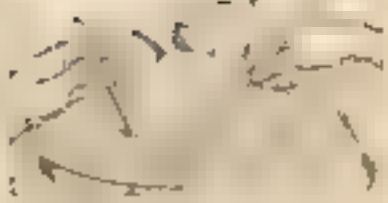


cheesecloth and put curds into the mould, folding neatly over the top when it is full. Put

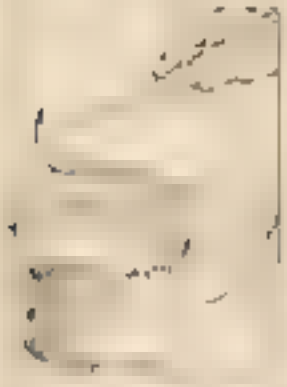
mould upside down and replace follower on top and increase pressure to 30 pounds for another 10 minutes. Repeat twice more at 10 minute intervals, increasing pressure by 10 lbs. each time, finally leaving the cheese under 50 lbs. pressure for 14 to 16 hours.

top 4.

ature of the water in
the temperature of the



decrease in size.



hours (or longer)

mixed half and half

to cover the cheese completely.

water and cool the milk to 90°F.

gently as you are heating.

minutes

smooth texture.

half gallon of water.)

WHEY CHEESE

citric acid, milk fat and salts.

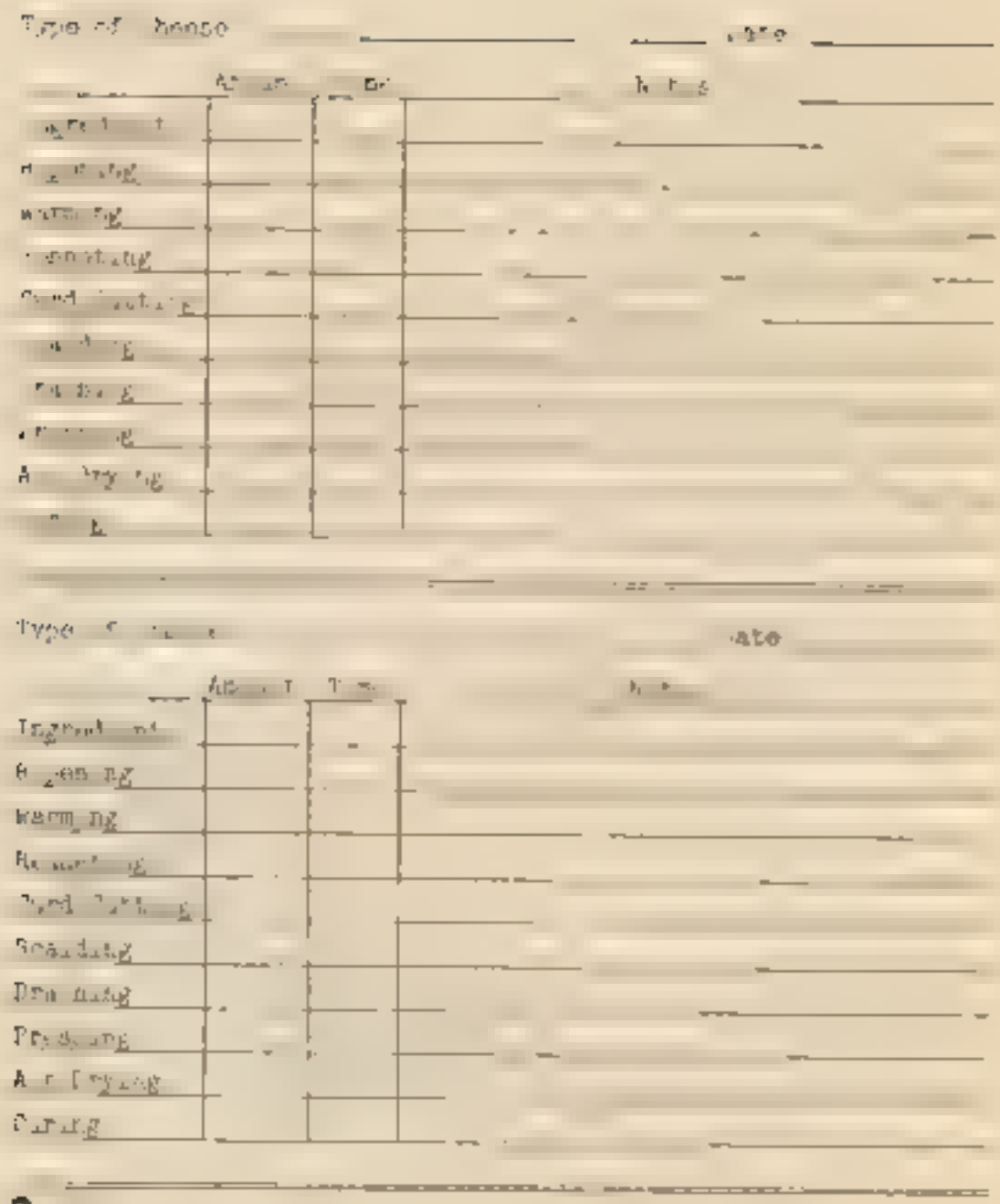
RICOTTA

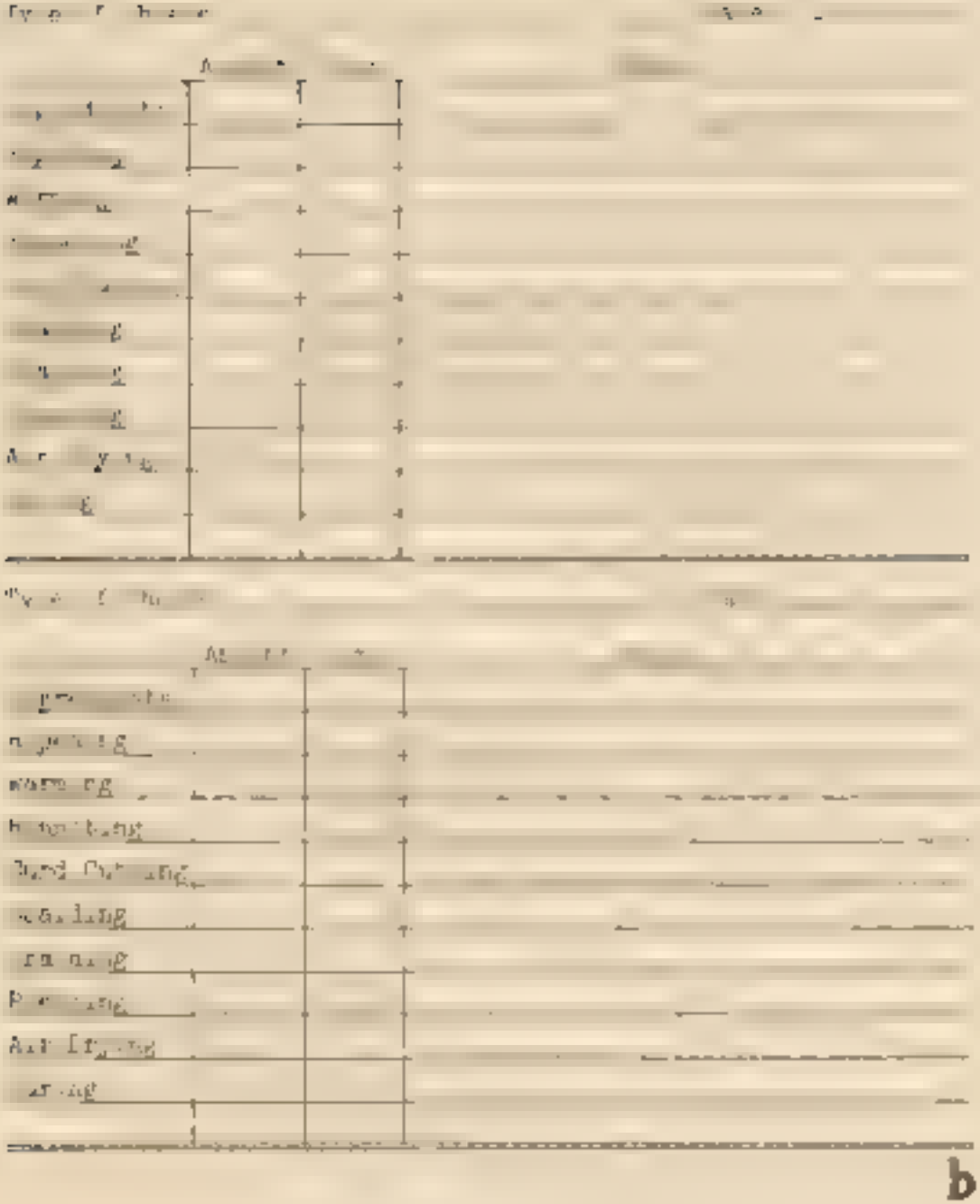
cool.

dp your own herbed variations!

When the whey has [illegible] hour heavy [illegible] if necessary and [illegible] from your own [illegible] hour longer [illegible] two of cumin seeds).

Put the kettle of whey [illegible] constant [illegible] curds [illegible] Dutch [illegible]





b

Type of Cheese: _____ Date: _____

	Amount	Time	Notes
Ingredients			
Ripening			
Warming			
Rennetting			
Curd Cutting			
Scalding			
Draining			
Pressing			
Air Drying			
Curing			

Type of Cheese: _____ Date: _____

	Amount	Time	Notes
Ingredients			
Ripening			
Warming			
Rennetting			
Curd Cutting			
Scalding			
Draining			
Pressing			
Air Drying			
Curing			

C

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Scalding			
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Pressing			
Air Drying			
Curing			

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